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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,395	04/15/2004	Brian Schoner	15442US02	8465

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EXAMINER	
VO, QUANG N	

ART UNIT	PAPER NUMBER
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,395	SCHONER, BRIAN	
	Examiner	Art Unit	
	Quang N. Vo	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 19-27 are drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1 (a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claims 19-27, while defining a program, does not define a "computer-readable medium" and is thus non-statutory for that reasons. A program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" in order to make the claim statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuoka (US 7,116,441).

With regard to claim 1, Matsuoka discloses a method that maps any input color from an image to an output color, the method using a two-dimensional lookup table that contains mapping for a portion of the colors of the image and using color information associated with an input color from the image (column 20, lines 39-49).

Matsuoka discloses mapping printer gamut information and monitor gamut information with reference to monitor gamut information (column 20, line 53 – column 21, line 7); and interpolator computes CMYK data to be output based on RGB data input from a terminal 1212 by interpolation using the LUT stored in the

RAM 1202, and outputs the CMYK data to a terminal 1213 (column 20, lines 39-49).

Matsuoka does not exactly teach determining mapping information for table entries nearest to an input color; and interpolating the mapping information for the nearest table entries to obtain color information for an output color corresponding to the input color.

Since Matsuoka's invention is implemented in a computer and a computer can only represent a number to it's nearest value (e.g., 2.333.....forever, can be represented by a limit amount of decimal digits).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have recognized Matsuoka is having determining mapping information for table entries nearest to an input color; and interpolating the mapping information for the nearest table entries to obtain color information for an output color corresponding to the input color, or at least obvious to provide functional part for performing mapping information for table entries nearest to an input color; and interpolating the mapping information for the nearest table entries to obtain color information for an output color corresponding to the input color.

With regard to claim 2, Matsuoka differs from claim 2, in that he does not explicitly teach determining mapping information for the nearest table entries comprises: determining mapping information of a first nearest table entry corresponding to a color represented by the lookup table and closest to the input color; determining mapping information of a second table entry a table entry

away from the first table entry in a first direction in the lookup table; determining mapping information of a third table entry a table entry away from the first table entry in a second direction in the lookup table; determining mapping information of a fourth table entry a table entry away from the third table entry in a first direction in the lookup table; and wherein the input color is located between the nearest table entries.

Matsuoka discloses an LUT generation unit 1209 generates an LUT used to convert RGB data into CMYK data with reference to the correspondence between the monitor and mapped gamuts (column 20, line 53 – column 21, line 7; column 21, lines 46-56; column 23, lines 50-64).

Since Matsuoka's invention is implemented in a computer and a computer can only represent a number to it's nearest value (e.g., 2.333.....forever, can be represented by a limit amount of decimal digits).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have recognized Matsuoka is having determining mapping information for the nearest table entries comprises: determining mapping information of a first nearest table entry corresponding to a color represented by the lookup table and closest to the input color (e.g., color signal converter generating the mapping information based on input color, inherently generating entries nearest to an input color, column 6, lines 29-37); determining mapping information of a second table entry a table entry away from the first table entry in a first direction in the lookup table; determining mapping information of a third table entry a table entry away from the first table entry in a

second direction in the lookup table; determining mapping information of a fourth table entry a table entry away from the third table entry in a first direction in the lookup table; and wherein the input color is located between the nearest table entries, or at least obvious to provide functional part for determining mapping information of a first nearest table entry corresponding to a color represented by the lookup table and closest to the input color; determining mapping information of a second table entry a table entry away from the first table entry in a first direction in the lookup table; determining mapping information of a third table entry a table entry away from the first table entry in a second direction in the lookup table; determining mapping information of a fourth table entry a table entry away from the third table entry in a first direction in the lookup table; and wherein the input color is located between the nearest table entries.

With regard to claim 3, Matsuoka discloses wherein the mapping information of a table entry comprises color information associated with the table entry and a mapping condition associated with the table entry (column 1, lines 9-14).

With regard to claim 4, Matsuoka discloses wherein the mapping condition indicates the color information associated with the table entry is to be used when the mapping condition is asserted (e.g., look-up table, RGB, CMYK, column 20, lines 39-49).

With regard to claim 5, Matsuoka discloses wherein the mapping condition indicates the color information of the input color is to be used when the mapping

condition is not asserted (e.g., interpolator computes CMYK data based on RGB data input, column 20, lines 39-49).

With regard to claim 6, Matsuoka discloses wherein the color information of the input color is output without performing any mapping when the mapping condition is not asserted for all the nearest table entries (column 6, line 63 – column 7, line 3).

With regard to claim 7, Matsuoka discloses wherein the brightness of the input color is mapped to an output brightness using brightness information of the table entries when the color information of the input color is output without performing any mapping (e.g., monitor gamut, printer gamut, look-up table, column 20, line 53 – column 21, line 7).

With regard to claim 8, Matsuoka does not exactly teach wherein the four nearest table entries are used to map the color of the input color.

Matsuoka discloses an LUT generation unit 1209 generates an LUT used to convert RGB data into CMYK data with reference to the correspondence between the monitor and mapped gamuts (column 20, line 53 – column 21, line 7; column 21, lines 46-56; column 23, lines 50-64).

Since Matsuoka's invention is implemented in a computer and a computer can only represent a number to it's nearest value (e.g., 2.333.....forever, can be represented by a limit amount of decimal digits).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have recognized Matsuoka is having four nearest table entries are used to map the color of the input color, or at least obvious to

provide functional part for performing of four nearest table entries are used to map the color of the input color.

With regard to claim 9, wherein two or one nearest table entries are used to map the color of the input color when the input color is near an edge of the look up table (column 25, lines 22-33).

Referring to claim 10:

Claim 10 is the system claim corresponding with method steps in claim 1 with operation corresponding directly to the steps in method of claim 1. Therefore claim 10 is rejected as set forth above for claim 1.

Referring to claim 11:

Claim 11 is the system claim corresponding with method steps in claim 2 with operation corresponding directly to the steps in method of claim 2. Therefore claim 11 is rejected as set forth above for claim 2.

Referring to claim 12:

Claim 12 is the system claim corresponding with method steps in claim 3 with operation corresponding directly to the steps in method of claim 3. Therefore claim 12 is rejected as set forth above for claim 3.

Referring to claim 13:

Claim 13 is the system claim corresponding with method steps in claim 4 with operation corresponding directly to the steps in method of claim 4. Therefore claim 13 is rejected as set forth above for claim 4.

Referring to claim 14:

Claim 14 is the system claim corresponding with method steps in claim 5 with operation corresponding directly to the steps in method of claim 5. Therefore claim 14 is rejected as set forth above for claim 5.

Referring to claim 15:

Claim 15 is the system claim corresponding with method steps in claim 6 with operation corresponding directly to the steps in method of claim 6. Therefore claim 15 is rejected as set forth above for claim 6.

Referring to claim 16:

Claim 16 is the system claim corresponding with method steps in claim 7 with operation corresponding directly to the steps in method of claim 7. Therefore claim 16 is rejected as set forth above for claim 7.

Referring to claim 17:

Claim 17 is the system claim corresponding with method steps in claim 8 with operation corresponding directly to the steps in method of claim 8. Therefore claim 17 is rejected as set forth above for claim 8.

Referring to claim 18:

Claim 18 is the system claim corresponding with method steps in claim 9 with operation corresponding directly to the steps in method of claim 9. Therefore claim 18 is rejected as set forth above for claim 9.

Referring to claim 19:

Claim 19 is the system claim corresponding with method steps in claim 1 with operation corresponding directly to the steps in method of claim 1. Therefore claim 19 is rejected as set forth above for claim 1.

Referring to claim 20:

Claim 20 is the system claim corresponding with method steps in claim 2 with operation corresponding directly to the steps in method of claim 2. Therefore claim 20 is rejected as set forth above for claim 2.

Referring to claim 21:

Claim 21 is the system claim corresponding with method steps in claim 3 with operation corresponding directly to the steps in method of claim 3. Therefore claim 21 is rejected as set forth above for claim 3.

Referring to claim 22:

Claim 22 is the system claim corresponding with method steps in claim 4 with operation corresponding directly to the steps in method of claim 4. Therefore claim 22 is rejected as set forth above for claim 4.

Referring to claim 23:

Claim 23 is the system claim corresponding with method steps in claim 5 with operation corresponding directly to the steps in method of claim 5. Therefore claim 23 is rejected as set forth above for claim 5.

Referring to claim 24:

Claim 24 is the system claim corresponding with method steps in claim 6 with operation corresponding directly to the steps in method of claim 6. Therefore claim 24 is rejected as set forth above for claim 6.

Referring to claim 25:

Claim 25 is the system claim corresponding with method steps in claim 7 with operation corresponding directly to the steps in method of claim 7. Therefore claim 25 is rejected as set forth above for claim 7.

Referring to claim 26:

Claim 26 is the system claim corresponding with method steps in claim 8 with operation corresponding directly to the steps in method of claim 8. Therefore claim 26 is rejected as set forth above for claim 8.

Referring to claim 27:

Claim 27 is the system claim corresponding with method steps in claim 7 with operation corresponding directly to the steps in method of claim 7. Therefore claim 27 is rejected as set forth above for claim 7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is 5712701121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 5712727440. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Quang N. Vo 9/5/07
Patent Examiner

KING Y. POON
SUPERVISORY PATENT EXAMINER